

1-36. (CANCELED)

37. (CURRENTLY AMENDED) A device for generating cold and heat by magnetic effect comprising at least one heat exchanger, the device comprising:

a principal circuit (13) comprising a first heat exchanger (11) and a second heat exchanger (12) connected in series through which circulates a mixture of transmitting fluid containing particles comprising ~~one or more of~~ a magneto-calorific material, ~~a phase-change material,~~ or a superconductive material~~[[,]]~~ or a mixture ~~thereof such materials;~~

magnetic elements (14) for generating a magnetic field in the first heat exchanger (11) so that the particles undergo a rise in temperature when passing through the magnetic field and undergo cooling upon leaving the magnetic field;

a hot circuit (15) connected to the first heat exchanger (11); and

at least one cold circuit (16) connected to the second heat exchanger (12)

wherein

the first heat exchanger (11) comprises an exterior envelope (11a) and interior conduits (11b), the interior conduits (11b) serving as vehicles for a heat-transmitting fluid (15a) from the hot circuit (15) and submerged in the mixture of transmitting fluid and particles (13a) from the principal circuit (13), the magnetic elements (14) constitute at least a portion of the exterior envelope (11a) of the heat exchanger (11).

38. (PREVIOUSLY PRESENTED) The device according to claim 37, wherein the magnetic elements (14) constitute a first portion of the exterior envelope (11a) of the heat exchanger and a second portion of the exterior envelope (11a) of the heat exchanger (11) is formed of a tube (11c) concentric to the magnetic elements (14).

39. (CURRENTLY AMENDED) A device for generating cold and heat by magnetic effect comprising at least one heat exchanger, the device comprising:

a principal circuit (13) comprising a first heat exchanger (11) and a second heat exchanger (12) connected in series through which circulates a mixture of



transmitting fluid containing particles comprising ~~one or more of~~ a magneto-calorific material, ~~a phase-change material,~~ or a superconductive material[[,]] or a mixture thereof ~~such materials~~;

magnetic elements (14) for generating a magnetic field in the first heat exchanger (11) so that the particles undergo a rise in temperature when passing through the magnetic field and undergo cooling upon leaving the magnetic field;

a hot circuit (15) connected to the first heat exchanger (11); and

at least one cold circuit (16) connected to the second heat exchanger (12),

wherein

the first heat exchanger (11) comprises an exterior envelope (11a) and interior conduits (11b), the interior conduits (11b) serving as vehicles for a heat-transmitting fluid (13a) from the principal circuit (13) and submerged in a transmitting fluid (15a) from the hot circuit (15), the magnetic elements (14) constitute at least a portion of walls of the interior conduits (11b).

40. (PREVIOUSLY PRESENTED) The device according to claim 39, wherein the magnetic elements (14) constitute a first portion of the walls of the interior conduits (11b) of the heat exchanger (11) and a second portion of the walls of the interior conduits (11) is formed of tubes (11d) concentric to the magnetic elements (14) and located inside the magnetic elements (14).